



RAW SEQUENCE LISTING

DATE: 02/05/2003

PATENT APPLICATION: US/09/147,801D

TIME: 16:02:02

Input Set : A:\3786002.app

Output Set: N:\CRF4\02052003\I147801D.raw

3 <110> APPLICANT: NIKLASSON, BO
 5 <120> TITLE OF INVENTION: NEW PICORNAVIRUSES, VACCINES AND DIAGNOSTIC KITS
 7 <130> FILE REFERENCE: 03786.002
 9 <140> CURRENT APPLICATION NUMBER: 09/147,801D
 10 <141> CURRENT FILING DATE: 1999-03-11
 12 <150> PRIOR APPLICATION NUMBER: PCT/SE97/01515
 13 <151> PRIOR FILING DATE: 1997-09-09
 15 <160> NUMBER OF SEQ ID NOS: 25
 17 <170> SOFTWARE: PatentIn Ver. 2.1
 19 <210> SEQ ID NO: 1
 20 <211> LENGTH: 264
 21 <212> TYPE: DNA
 22 <213> ORGANISM: Ljungan virus
 24 <400> SEQUENCE: 1

ENTERED

25 agtctagtct tatcttgtat gtgtcctgca ctgaacttgt ttctgtctct ggagtgtctt 60
 26 acacttcagt aggggctgta cccgggcggt cccactcttc acaggaatct gcacaggtgg 120
 27 ctttcacctc tggacagtgc attccacacc cgctccacgg tagaagatga tgtgtgtctt 180
 28 tgcttgtgaa aagcttgtga aaatcggtg taggcgtagc ggctacttga gtgccagcgg 240
 29 attacccta gtgtaacac tagc 264

32 <210> SEQ ID NO: 2
 33 <211> LENGTH: 264
 34 <212> TYPE: DNA
 35 <213> ORGANISM: Ljungan virus
 37 <220> FEATURE:

38 <221> NAME/KEY: modified_base
 39 <222> LOCATION: (1)..(264)
 40 <223> OTHER INFORMATION: "n" represents a, t, c, g, other or unknown
 42 <400> SEQUENCE: 2

43 agtctagttt cattctgtgt gtgtttggca ctgaaattat ttctgtctct ggggtgcttt 60
 W--> 44 acacttcagt aggggctgta cccgggcggt cccactcttc acaggaatnt gcacaggtgg 120
 45 ctttcacctc tggacagtgc attccacacc cgctccacag tagaagatga tgtgtgtctt 180
 W--> 46 tgcttgtgaa aagcttgtga aaatcggtg taggcgtagc ggntacttga gtgccagcgg 240
 W--> 47 acnacccta gtgtaacac tagc 264

50 <210> SEQ ID NO: 3
 51 <211> LENGTH: 264
 52 <212> TYPE: DNA
 53 <213> ORGANISM: Ljungan virus
 55 <400> SEQUENCE: 3

56 agtttggttc tctctttagt gtgttttgtg ttagcataat ttctgtctct agagtgtctt 60
 57 acactctagt aggggctgta cccgggcggt cccactcttc acaggaatct gcacaggtgg 120
 58 ctttcacctc tggacagtgc attccatacc cgctccacaa tagaagatga tgtatatctt 180
 59 tgtttgtgaa atgctcatga aacgtgtgtg taggcgtagc ggctacttga atgccagcgg 240
 60 aaccccccta gtgtaacac tagc 264

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63 <210> SEQ ID NO: 4
64 <211> LENGTH: 179
65 <212> TYPE: PRT
66 <213> ORGANISM: Ljungan virus
68 <400> SEQUENCE: 4
69 Lys Asp Leu Met Glu Ile Ala Arg Met Pro Ser Val Tyr Lys Gly Glu
70 1 5 10 15
72 Arg Thr Glu Pro Gly Gly Thr Asn Gly Tyr Phe Gln Trp Ser His Thr
73 20 25 30
75 His Ser Pro Ile Asn Trp Val Phe Asp Gly Gly Ile His Leu Glu Asp
76 35 40 45
78 Met Pro Asn Leu Asn Leu Phe Ser Ser Cys Tyr Asn Tyr Trp Arg Gly
79 50 55 60
81 Ser Thr Val Leu Lys Leu Thr Val Tyr Ala Ser Thr Phe Asn Lys Gly
82 65 70 75 80
84 Arg Leu Arg Met Ala Phe Phe Pro Ile Met Met Gln Gly Thr Gln Arg
85 85 90 95
87 Lys Lys His Lys Cys Leu Phe Met Val Cys Asp Ile Gly Leu Asn Asn
88 100 105 110
90 Thr Phe Glu Met Thr Ile Pro Tyr Thr Trp Gly Asn Trp Met Arg Pro
91 115 120 125
93 Thr Arg Gly Ser Val Ile Gly Trp Leu Arg Ile Asp Val Leu Asn Arg
94 130 135 140
96 Leu Thr Tyr Asn Ser Ser Pro Asn Ala Val Asn Cys Ile Leu Gln
97 145 150 155 160
99 Val Lys Met Gly Asn Asp Ala Lys Phe Met Val Pro Thr Thr Ser Asn
100 165 170 175
102 Ile Val Trp
106 <210> SEQ ID NO: 5
107 <211> LENGTH: 241
108 <212> TYPE: DNA
109 <213> ORGANISM: Cardiovirus
111 <400> SEQUENCE: 5
112 tgacagggtt attttcacct cttcttttct actccacagt gttctatact gtggaagggt 60
113 atgtgttgcc ccttccttct tggagaacgt gcgcggcggt ctttccgtct ctcgacaagc 120
114 gcgcgtgcaa catacagagt aacgcgaaga aagcagttct cggcttagct ctagtgccca 180
115 caagaaaaca gctgtagcga ccacacaaag gcagcggaac cccctcctg gtaacaggag 240
116 c 241
119 <210> SEQ ID NO: 6
120 <211> LENGTH: 243
121 <212> TYPE: DNA
122 <213> ORGANISM: Cardiovirus
124 <400> SEQUENCE: 6
125 tgacagggtt attttcacct cttctctctt ctacttcata gtgttctata ctatgaaagg 60
126 gtatgtgtcg ccccttcctt cttggagaac gtgcgtggcg gtctttccgt ctctcgaaaa 120
127 acgtgcgtgc gacatgcaga gtaacgcaaa gaaagcagtt cttggtctag ctctgggtgcc 180
128 cacaagaaaa cagctgtagc gaccacacaa aggcagcgga aacccctcc tggtaacagg 240
129 agc 243
132 <210> SEQ ID NO: 7

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Input Set : A:\3786002.app

Output Set: N:\CRF4\02052003\I147801D.raw

133 <211> LENGTH: 247

134 <212> TYPE: DNA

135 <213> ORGANISM: Cardiovirus

137 <400> SEQUENCE: 7

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138 aggccggtgt gcgtttgtct atatgttatt ttccaccata ttgccgtctt ttggcaatgt 60
139 gagggcccgga aaacctggcc ctgtcttctt gacgagcatt cctaggggtc tttccctctt 120
140 cgccaaagga atgcaaggtc tgttgaatgt cgtgaaggaa gcagttcttc tggaagcttc 180
141 ttgaagacaa acaacgtctg tagcgaccct ttgcaggcag cggaaccccc cacctggcga 240
142 caggtgc                                           247

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145 <210> SEQ ID NO: 8

146 <211> LENGTH: 188

147 <212> TYPE: PRT

148 <213> ORGANISM: Cardiovirus

150 <400> SEQUENCE: 8

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151 Ser Asp Leu Leu Glu Leu Cys Lys Leu Pro Thr Phe Leu Gly Asn Pro
152   1           5           10           15
154 Asn Thr Asn Asn Lys Arg Tyr Pro Tyr Phe Ser Ala Thr Asn Ser Val
155           20           25           30
157 Pro Ala Thr Ser Met Val Asp Tyr Gln Val Ala Leu Ser Cys Ser Cys
158           35           40           45
160 Met Ala Asn Ser Met Leu Ala Ala Val Ala Arg Asn Phe Asn Gln Tyr
161           50           55           60
163 Arg Gly Ser Leu Asn Phe Leu Phe Val Phe Thr Gly Ala Ala Met Val
164   65           70           75           80
166 Lys Gly Lys Phe Leu Ile Ala Tyr Thr Pro Gly Ala Gly Lys Pro
167           85           90           95
169 Thr Thr Arg Asp Gln Ala Met Gln Ser Thr Tyr Ala Ile Trp Asp Leu
170           100          105          110
172 Gly Leu Asn Ser Ser Phe Asn Phe Thr Ala Pro Phe Ile Ser Pro Thr
173           115          120          125
175 His Tyr Arg Gln Thr Ser Tyr Thr Ser Pro Thr Ile Thr Ser Val Asp
176           130          135          140
178 Gly Trp Val Thr Val Trp Lys Leu Thr Pro Leu Thr Tyr Pro Ser Gly
179 145           150          155          160
181 Thr Pro Thr Asn Ser Asp Ile Leu Thr Leu Val Ser Ala Gly Asp Asp
182           165          170          175
184 Phe Thr Leu Arg Met Pro Ile Ser Pro Thr Lys Trp
185           180          185

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188 <210> SEQ ID NO: 9

189 <211> LENGTH: 188

190 <212> TYPE: PRT

191 <213> ORGANISM: Cardiovirus

193 <400> SEQUENCE: 9

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194 Ser Asp Leu Leu Glu Leu Cys Lys Leu Pro Thr Phe Leu Gly Asn Pro
195   1           5           10           15
197 Ser Thr Asp Asn Lys Arg Tyr Pro Tyr Phe Ser Ala Thr Asn Ser Val
198           20           25           30
200 Pro Ala Thr Ser Leu Val Asp Tyr Gln Val Ala Leu Ser Cys Ser Cys
201           35           40           45

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RAW SEQUENCE LISTING

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PATENT APPLICATION: US/09/147,801D

TIME: 16:02:02

Input Set : A:\3786002.app

Output Set: N:\CRF4\02052003\I147801D.raw

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203 Met Ala Asn Ser Met Leu Ala Ala Val Ala Arg Asn Phe Asn Gln Tyr
204      50                      55                      60
206 Arg Gly Ser Leu Asn Phe Leu Phe Val Phe Thr Gly Ala Ala Met Val
207 65                      70                      75                      80
209 Lys Gly Lys Phe Arg Ile Ala Tyr Thr Pro Pro Gly Ala Gly Lys Pro
210                      85                      90                      95
212 Thr Thr Arg Asp Gln Ala Met Gln Ala Thr Tyr Ala Ile Trp Asp Leu
213                      100                      105                      110
215 Gly Leu Asn Ser Ser Phe Asn Phe Thr Ala Pro Phe Ile Ser Pro Thr
216                      115                      120                      125
218 His Tyr Arg Gln Thr Ser Tyr Thr Ser Pro Thr Ile Thr Ser Val Asp
219                      130                      135                      140
221 Gly Trp Val Thr Val Trp Gln Leu Thr Pro Leu Thr Tyr Pro Ser Gly
222 145                      150                      155                      160
224 Thr Pro Thr Asn Ser Asp Ile Leu Thr Leu Val Ser Ala Gly Asp Asp
225                      165                      170                      175
227 Phe Thr Leu Arg Met Pro Ile Ser Pro Thr Lys Trp
228                      180                      185
231 <210> SEQ ID NO: 10
232 <211> LENGTH: 188
233 <212> TYPE: PRT
234 <213> ORGANISM: Cardiovirus
236 <400> SEQUENCE: 10
237 Ser Asp Leu Leu Glu Leu Cys Lys Leu Pro Thr Phe Leu Gly Asn Pro
238 1      5                      10                      15
240 Ser Thr Asp Asn Lys Arg Tyr Pro Tyr Phe Ser Ala Thr Asn Ser Val
241                      20                      25                      30
243 Pro Ala Thr Ser Leu Val Asp Tyr Gln Val Ala Leu Ser Cys Ser Cys
244                      35                      40                      45
246 Met Ala Asn Ser Met Leu Ala Ala Val Ala Arg Asn Phe Asn Gln Tyr
247      50                      55                      60
249 Arg Gly Ser Leu Asn Phe Leu Phe Val Phe Thr Gly Ala Ala Met Val
250 65                      70                      75                      80
252 Lys Gly Lys Phe Leu Ile Ala Tyr Thr Pro Pro Gly Ala Gly Lys Pro
253                      85                      90                      95
255 Thr Thr Arg Asp Gln Ala Met Gln Ala Thr Tyr Ala Ile Trp Asp Leu
256                      100                      105                      110
258 Gly Leu Asn Ser Ser Phe Asn Phe Thr Ala Pro Phe Ile Ser Pro Thr
259                      115                      120                      125
261 His Tyr Arg Gln Thr Ser Tyr Thr Ser Pro Thr Ile Thr Ser Val Asp
262      130                      135                      140
264 Gly Trp Val Thr Val Trp Gln Leu Thr Pro Leu Thr Tyr Pro Ser Gly
265 145                      150                      155                      160
267 Thr Pro Thr Asn Ser Asp Ile Leu Thr Leu Val Ser Ala Gly Asp Asp
268                      165                      170                      175
270 Phe Thr Leu Arg Met Pro Ile Ser Pro Thr Lys Trp
271                      180                      185
274 <210> SEQ ID NO: 11
275 <211> LENGTH: 188

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RAW SEQUENCE LISTING

DATE: 02/05/2003

PATENT APPLICATION: US/09/147,801D

TIME: 16:02:02

Input Set : A:\3786002.app

Output Set: N:\CRF4\02052003\I147801D.raw

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276 <212> TYPE: PRT
277 <213> ORGANISM: Cardiovirus
279 <400> SEQUENCE: 11
280 Ser Asp Leu Leu Glu Leu Cys Lys Leu Pro Thr Phe Leu Gly Asn Pro
281   1           5           10           15
283 Asn Ser Asn Asn Lys Arg Tyr Pro Tyr Phe Ser Ala Thr Asn Ser Val
284           20           25           30
286 Pro Thr Thr Ser Leu Val Asp Tyr Gln Val Ala Leu Ser Cys Ser Cys
287           35           40           45
289 Met Ala Asn Ser Met Leu Ala Val Ala Arg Asn Phe Asn Gln Tyr
290           50           55           60
292 Arg Gly Ser Leu Asn Phe Leu Phe Val Phe Thr Gly Ala Ala Met Val
293   65           70           75           80
295 Lys Gly Lys Phe Leu Ile Ala Tyr Thr Pro Pro Gly Ala Gly Lys Pro
296           85           90           95
298 Thr Thr Arg Asp Gln Ala Met Gln Ala Thr Tyr Ala Ile Trp Asp Leu
299           100          105          110
301 Gly Leu Asn Ser Ser Phe Val Phe Thr Ala Pro Phe Ile Ser Pro Thr
302           115          120          125
304 His Tyr Arg Gln Thr Ser Tyr Thr Ser Ala Thr Ile Ala Ser Val Asp
305           130          135          140
307 Gly Trp Val Thr Val Trp Gln Leu Thr Pro Leu Thr Tyr Pro Ser Gly
308  145           150          155          160
310 Ala Pro Val Asn Ser Asp Ile Leu Thr Leu Val Ser Ala Gly Asp Asp
311           165          170          175
313 Phe Thr Leu Arg Met Pro Ile Ser Pro Thr Lys Trp
314           180          185
317 <210> SEQ ID NO: 12
318 <211> LENGTH: 187
319 <212> TYPE: PRT
320 <213> ORGANISM: Cardiovirus
322 <220> FEATURE:
323 <221> NAME/KEY: MOD_RES
324 <222> LOCATION: (102)
325 <223> OTHER INFORMATION: variable or unknown amino acid
327 <400> SEQUENCE: 12
328 Thr Asp Leu Leu Glu Leu Cys Lys Leu Pro Thr Phe Leu Gly Asn Leu
329   1           5           10           15
331 Ser Asn Asp Thr Arg Val Pro Phe Phe Thr Ala Thr Asn Ser Val Pro
332           20           25           30
334 Thr Glu Ser Leu Val Glu Tyr Gln Val Thr Leu Ser Cys Ser Cys Met
335           35           40           45
337 Ser Asn Ser Met Leu Ala Ser Val Ala Arg Asn Phe Asn Gln Tyr Arg
338           50           55           60
340 Gly Ser Leu Asn Phe Leu Phe Val Phe Thr Gly Ser Ala Met Thr Lys
341   65           70           75           80
343 Gly Lys Phe Leu Ile Ala Tyr Thr Pro Pro Gly Ala Gly Lys Pro Thr
344           85           90           95
W--> 346 Thr Arg Asp Gln Ala Xaa Gln Ser Thr Tyr Ala Ile Trp Asp Leu Gly

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RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/147,801D

DATE: 02/05/2003
TIME: 16:02:03

Input Set : A:\3786002.app
Output Set: N:\CRF4\02052003\I147801D.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:2; N Pos. 109,223,243
Seq#:12; Xaa Pos. 102